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The structure of *Podocarpus spinulosa*.—BROOKS and STILES¹¹ find the structure of the stem and leaf of *Podocarpus spinulosa* similar to species studied by PENHALLOW and WORSDELL. The wall of the microsporangium is described as similar to that of *Saxegothaea* and *Araucaria* except that the dehiscence is oblique. The male gametophyte agrees with *P. ferruginea* and *P. dactyloides*, described by JEFFREY and CHRYSLER, having a prothallial complex of eight cells, and occasionally the appearance as of a second derivative of the generative cell. The course of the vascular bundles in the ovulate sporophyll is studied in detail and compared with other forms.

That *Podocarpus* is a specialized offshoot from *Saxegothaea*-like ancestors is confirmed by the presence of less mesarch wood than in *Saxegothaea*, the loss of function of some of the resin canals, and the specialized ovulate structure with reduction in size and number of scales. The independence of the vascular supply of the ovule from that of the scale is explained by the greater importance of the ovule in *Podocarpus*. The authors regard Podocarpaceae as a natural group, with no very definite connection with Taxineae, no evident relation to Abietineae, but with a probable connection with Araucarineae.—MARY S. YOUNG.

Evolution of plants.—In his presidential address of 1910 before the Linnean Society of London, PROFESSOR SCOTT selected as his subject "Some modern ideas on the course of evolution of plants." It is an outline of the present status of opinion in reference to the evolution of vascular plants, especially as developed by the recent rapid increase of knowledge of paleobotanical material, and is in part a confession of faith. The author evidently believes in the homologous origin of the alternation of generations, and regards the sporophyte of the pteridophyte as developed directly from the thallophyte body. Special attention is given to the views of LIGNIER in connection with this thalloid origin of the cormophyte. The classification of vascular plants proposed in the new edition of his *Studies in fossil botany* is outlined, and the gymnosperm relationships are discussed; while Bennettitales-like forms are still put forward as representing a possible origin of the angiosperms. Perhaps the main thesis of the address is to illustrate among plants the theory of GASKELL, developed in a discussion of the origin of vertebrates, that "each successive group has arisen from some member of the highest group existing at the time."—J. M. C.

Evolution of *Pinus*.—BAILEY¹² has presented the anatomical characters that seem to be of service in tracing the lines of descent of pines. The cretaceous pines and *Prepinus* are characterized by thick-walled ray parenchyma, "piciform" lateral ray pits, absence of marginal ray tracheids, and abundant

¹¹ BROOKS, M. A., and STILES, W., The structure of *Podocarp spinulosa*. *Annals of Botany* 24:305-318. *pl.* 21. 1910.

¹² BAILEY, IRVING W., Anatomical characters in the evolution of *Pinus*. *Amer. Nat.* 44:284-293. 1910.